

AMENDMENTS TO THE CLAIMS

The listing of claims will replace all prior versions and listings of claims in the application:

1. **(Previously Presented)** A method for compacting a surface of a wooden workpiece, the method comprising:

providing a wooden workpiece from a group selected from at least one of a solid wooden workpiece, a workpiece manufactured from materials similar to wood, bamboo, reed, other wood-based materials, plywood, chipboards, wood-containing paper, and paper enriched with resins;

heating a surface of the wooden workpiece in at least partial areas--while preventing the entry of oxygen--by supplying energy to the surface, which energy supply produces a frictional relative motion on the wooden workpiece and hence a heating and a destruction of the cell structure thereof;

placing the wooden workpiece under pressure until a thermoplastic adhesive substance coming from the wooden workpiece is formed; and

compacting the surface and a volume area beneath the surface under application of pressure while being cooled.

2. **(Previously Presented)** A method for connecting two wooden workpieces contacting each other, the method comprising:

providing a first and second wooden workpiece, each having a contact surface;

heating both the contact surface of a first wooden workpiece and the contact surface of a second wooden workpiece in at least partial areas of the surfaces contacting each other--while preventing the entry of oxygen--by supplying energy to the contact surfaces, which energy supply produces a frictional relative motion between the wooden workpieces and hence a heating and a destruction of the cell structure of at least one wooden workpiece;

placing the first and second wooden workpieces under pressure until a thermoplastic adhesive substance is formed, whereby the two wooden workpieces are pressed against each other with their contact surfaces under application of pressure;

cooling the contact surfaces of the two wooden workpieces and volume areas beneath said surfaces cooled;

compacting a surface area of at least one of the wooden workpieces under pressure; and

welding the wooden workpieces to one another, with the thermoplastic adhesive substance penetrating under the contact surfaces of the wooden workpieces.

3. **(Previously Presented)** The method according to claim 1, further comprising a step of conditioning the wooden workpiece during the supply of energy, to at least one of a predetermined maximum moisture content, to a predetermined minimum temperature, and to a surface quality such as roughness.

4. **(Previously Presented)** The method according to claim 1, further comprising a step of conditioning the wooden workpiece prior to the energy supply, to at least one of a predetermined maximum moisture content, to a predetermined minimum temperature, and to a surface quality such as roughness.

5. **(Previously Presented)** The method according to claim 1, wherein the friction is caused by an oscillating relative motion between the surface of the wooden workpiece and the surface of a counter workpiece, in particular in the form of a linearly oscillating relative motion that moves in a direction roughly parallel to the surface or in the form of an ultrasonic motion that moves in a direction at an arbitrary angle, preferably at a right angle to the surface of the wooden workpiece, by a relative motion oscillating vertically to the surface of the wooden workpiece.

6. **(Previously Presented)** The method according to claim 5, wherein the relative motion is produced with the aid of ultrasound.

7. **(Previously Presented)** The method according to claim 5, wherein a second wooden workpiece is used as the counter workpiece.

8. **(Previously Presented)** The method according to claim 5, further comprising a step of using a counter workpiece having a smooth surface with a small wetting angle which prevents adhesion.

9. **(Previously Presented)** The method according to claim 1, wherein the degree of the compaction is accomplished depending on properties of the wooden workpiece.

10. **(Previously Presented)** The method according to claim 9, wherein the degree of the compaction is accomplished depending on the density of the wooden workpiece.

11. **(Previously Presented)** The method according to claim 9, wherein the compaction is accomplished depending on a mechanical strength value of the wooden workpiece.

12. **(Previously Presented)** The method according to claim 1, wherein the method is first performed across a partial surface of a wooden workpiece and subsequently across further partial surfaces of the wooden workpiece.

13. **(Previously Presented)** The method according to claim 12, wherein the method is performed across the surface of a wooden workpiece in a continuously progressive manner.

14. **(Previously Presented)** The method according to claim 12, wherein the density of the wooden workpiece is measured continually during the method and at

least one of the compaction and the formation of the thermoplastic adhesive substance is effected depending on the measured values.

15. **(Previously Presented)** The method according to claim 14, wherein the compaction is effected by a force which is roughly vertical to the longitudinal axis of the wood fibers of a wooden workpiece.

16. **(Previously Presented)** The method according to claim 15, wherein the compaction is performed at an angle deviating from 0° relative to the longitudinal direction of the wood fibers of a wooden workpiece, which deviation is smaller than 90° relative to the longitudinal direction of the wood fibers.

17. **(Previously Presented)** The method according to claim 16, wherein, in order to stabilize the dimension of the compaction, a vaporization of the compacted surface of the wooden workpiece is carried out after the surface compaction.

18. **(Previously Presented)** The method according to claim 1, wherein the thermoplastic adhesive substance is manufactured in an anaerobic atmosphere.

19-34. **(Cancelled)**

35. **(Previously Presented)** The method according to claim 2, further comprising a step of conditioning the wooden workpieces during the supply of energy, to at least one of a predetermined maximum moisture content, to a predetermined minimum temperature, and to a surface quality such as roughness.

36. **(Previously Presented)** The method according to claim 2, further comprising a step of conditioning the wooden workpieces prior to the energy supply, to at least one of a predetermined maximum moisture content, to a predetermined minimum temperature, and to a surface quality such as roughness.

37. **(Previously Presented)** The method according to claim 2, wherein the friction is caused by an oscillating relative motion between the surface of the wooden workpiece and the surface of a counter workpiece, in particular in the form of a linearly oscillating relative motion that moves in a direction roughly parallel to the surface or in the form of an ultrasonic motion that moves in a direction at an arbitrary angle, preferably at a right angle to the surface of the wooden workpiece, by a relative motion oscillating vertically to the surface of the wooden workpiece.

38. **(Previously Presented)** The method according to claim 37, wherein the relative motion is produced with the aid of ultrasound.

39. **(Previously Presented)** The method according to claim 37, wherein a second wooden workpiece is used as the counter workpiece.

40. **(Previously Presented)** The method according to claim 37, further comprising a step of using a counter workpiece having a smooth surface with a small wetting angle which prevents adhesion.

41. **(Previously Presented)** The method according to claim 2, wherein the degree of the compaction is accomplished depending on properties of the wooden workpieces.

42. **(Previously Presented)** The method according to claim 41, wherein the degree of the compaction is accomplished depending on the density of the wooden workpieces.

43. **(Previously Presented)** The method according to claim 41, wherein the compaction is accomplished depending on a mechanical strength value of the wooden workpieces.

44. **(Previously Presented)** The method according to claim 2, wherein the method is first performed across a partial surface of a wooden workpiece and subsequently across further partial surfaces of the wooden workpiece.

45. **(Previously Presented)** The method according to claim 44, wherein the method is performed across the surface of a wooden workpiece in a continuously progressive manner.

46. **(Previously Presented)** The method according to claim 44, wherein the density of the wooden workpiece is measured continually during the method and at least one of the compaction and the formation of the thermoplastic adhesive substance is effected depending on the measured values.

47. **(Previously Presented)** The method according to claim 46, wherein the compaction is effected by a force which is roughly vertical to the longitudinal axis of the wood fibers of a wooden workpiece.

48. **(Previously Presented)** The method according to claim 47, wherein the compaction is performed at an angle deviating from 0° relative to the longitudinal direction of the wood fibers of a wooden workpiece, which deviation is smaller than 90° relative to the longitudinal direction of the wood fibers.

49. **(Previously Presented)** The method according to claim 48, wherein, in order to stabilize the dimension of the compaction, a vaporization of the welded joint of the wooden workpieces is carried out after the welding.

50. **(Previously Presented)** The method according to claim 2, wherein the thermoplastic adhesive substance is manufactured in an anaerobic atmosphere.

51. **(Previously Presented)** The method according to claim 8, wherein the smooth surface with a small wetting angle is at least one of a metallic and mirrored surface.

52. **(Previously Presented)** The method according to claim 40, wherein the smooth surface with a small wetting angle is at least one of a metallic and mirrored surface.

53. **(Previously Presented)** The method according to claim 14, wherein the compaction is effected by a force which is in a radial direction of a tree trunk.

54. **(Previously Presented)** The method according to claim 46, wherein the compaction is effected by a force which is in a radial direction of a tree trunk.